

RAW SEQUENCE LISTING

DATE: 04/16/2001

PATENT APPLICATION: US/09/757,100B

TIME: 08:54:10

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

P.5

3 <110> APPLICANT: Monia, Brett P.
 4 Gaarde, William A.
 5 Nero, Pamela S.
 8 <120> TITLE OF INVENTION: Antisense Modulation of Focal Adhesion Kinase
 9 Expression
 11 <130> FILE REFERENCE: ISPH-0533
 13 <140> CURRENT APPLICATION NUMBER: US/09/757,100B
 14 <141> CURRENT FILING DATE: 2001-01-09
 16 <150> PRIOR APPLICATION NUMBER: 09/377,310
 17 <151> PRIOR FILING DATE: 1999-08-19
 19 <150> PRIOR APPLICATION NUMBER: PCT/US00/18999
 20 <151> PRIOR FILING DATE: 2000-07-13
 22 <160> NUMBER OF SEQ ID NOS: 44
 24 <170> SOFTWARE: PatentIn Ver. 2.0
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 3791
 28 <212> TYPE: DNA
 29 <213> ORGANISM: Homo sapiens
 31 <220> FEATURE:
 32 <221> NAME/KEY: CDS
 33 <222> LOCATION: (233)..(3391)
 35 <300> PUBLICATION INFORMATION:
 36 <303> JOURNAL: DNA
 37 <304> VOLUME: 12
 38 <305> ISSUE: 9
 39 <306> PAGES: 823-830
 40 <307> DATE: 1993-11
 41 <308> DATABASE ACCESSION NO: L13616/Genbank
 42 <309> DATABASE ENTRY DATE: 1995-01-02
 44 <400> SEQUENCE: 1
 45 cgaccactgt gagccgcg cgtgaggcgt cgggaggaag cgcggctgct gtgcgccagc 60
 47 gccgccccgt cgtcgtctgc cttcgcttca cggcgccgag ccgcgggtccg agcagaactg 120
 49 gggctccctt gcattctcca gttacaaatt cagtgccttc tgcagtttcc ccagagctcc 180
 51 tcaagaataa cggaaggag aatatgacag atacctagca tctagcaaaa ta atg gca 238
 52 Met Ala
 53 1
 55 gct gct tac ctt gac ccc aac ttg aat cac aca cca aat tcg agt act 286
 56 Ala Ala Tyr Leu Asp Pro Asn Leu Asn His Thr Pro Asn Ser Ser Thr
 57 5 10 15
 59 aag act cac ctg ggt act ggt atg gaa cgt tct cct ggt gca atg gag 334
 60 Lys Thr His Leu Gly Thr Gly Met Glu Arg Ser Pro Gly Ala Met Glu
 61 20 25 30
 63 cga gta tta aag gtc ttt cat tat ttt gaa agc aat agt gag cca acc 382
 64 Arg Val Leu Lys Val Phe His Tyr Phe Glu Ser Asn Ser Glu Pro Thr
 65 35 40 45 50
 67 acc tgg gcc agt att atc agg cat gga gat gct act gat gtc agg ggc 430
 69 Thr Trp Ala Ser Ile Ile Arg His Gly Asp Ala Thr Asp Val Arg Gly

RAW SEQUENCE LISTING

DATE: 04/16/2001

PATENT APPLICATION: US/09/757,100B

TIME: 08:54:10

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

```

70          55          60          65
72 atc att cag aag ata gtg gac agt cac aaa gta aag cat gtg gcc tgc 478
73 Ile Ile Gln Lys Ile Val Asp Ser His Lys Val Lys His Val Ala Cys
74          70          75          80
76 tat gga ttc cgc ctc agt cac ctg cgg tca gag gag gtt cac tgg ctt 526
77 Tyr Gly Phe Arg Leu Ser His Leu Arg Ser Glu Glu Val His Trp Leu
78          85          90          95
80 cac gtg gat atg ggc gtc tcc agt gtg agg gag aag tat gag ctt gct 574
81 His Val Asp Met Gly Val Ser Ser Val Arg Glu Lys Tyr Glu Leu Ala
82          100          105          110
84 cac cca cca gag gag tgg aaa tat gaa ttg aga att cgt tat ttg cca 622
85 His Pro Pro Glu Glu Trp Lys Tyr Glu Leu Arg Ile Arg Tyr Leu Pro
86          115          120          125          130
88 aaa gga ttt cta aac cag ttt act gaa gat aag cca act ttg aat ttc 670
89 Lys Gly Phe Leu Asn Gln Phe Thr Glu Asp Lys Pro Thr Leu Asn Phe
90          135          140          145
92 ttc tat caa cag gtg aag agc gat tat atg tta gag ata gct gat caa 718
93 Phe Tyr Gln Gln Val Lys Ser Asp Tyr Met Leu Glu Ile Ala Asp Gln
94          150          155          160
96 gtg gac cag gaa att gct ttg aag ttg ggt tgt cta gaa ata cgg cga 766
97 Val Asp Gln Glu Ile Ala Leu Lys Leu Gly Cys Leu Glu Ile Arg Arg
98          165          170          175
100 tca tac tgg gag atg cgg ggc aat gca cta gaa aag aag tct aac tat 814
101 Ser Tyr Trp Glu Met Arg Gly Asn Ala Leu Glu Lys Lys Ser Asn Tyr
102          180          185          190
104 gaa gta tta gaa aaa gat gtt ggt tta aag cga ttt ttt cct aag agt 862
105 Glu Val Leu Glu Lys Asp Val Gly Leu Lys Arg Phe Phe Pro Lys Ser
106          195          200          205          210
108 tta ctg gat tct gtc aag gcc aaa aca cta aga aaa ctg atc caa caa 910
109 Leu Leu Asp Ser Val Lys Ala Lys Thr Leu Arg Lys Leu Ile Gln Gln
110          215          220          225
112 aca ttt aga caa ttt gcc aac ctt aat aga gaa gaa agt att ctg aaa 958
113 Thr Phe Arg Gln Phe Ala Asn Leu Asn Arg Glu Glu Ser Ile Leu Lys
114          230          235          240
116 ttc ttt gag atc ctg tct cca gtc tac aga ttt gat aag gaa tgc ttc 1006
117 Phe Phe Glu Ile Leu Ser Pro Val Tyr Arg Phe Asp Lys Glu Cys Phe
118          245          250          255
120 aag tgt gct ctt ggt tca agc tgg att att tca gtg gaa ctg gca atc 1054
121 Lys Cys Ala Leu Gly Ser Ser Trp Ile Ile Ser Val Glu Leu Ala Ile
122          260          265          270
124 ggc cca gaa gaa gga atc agt tac cta acg gac aag ggc tgc aat ccc 1102
125 Gly Pro Glu Glu Gly Ile Ser Tyr Leu Thr Asp Lys Gly Cys Asn Pro
126          275          280          285          290
128 aca cat ctt gct gac ttc act caa gtg caa acc att cag tat tca aac 1150
129 Thr His Leu Ala Asp Phe Thr Gln Val Gln Thr Ile Gln Tyr Ser Asn
130          295          300          305
132 agt gaa gac aag gac aga aaa gga atg cta caa cta aaa ata gca ggt 1198
133 Ser Glu Asp Lys Asp Arg Lys Gly Met Leu Gln Leu Lys Ile Ala Gly
135          310          315          320

```

RAW SEQUENCE LISTING

DATE: 04/16/2001

PATENT APPLICATION: US/09/757,100B

TIME: 08:54:10

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

```

137 gca ccc gag cct ctg aca gtg acg gca cca tcc cta acc att gcg gag 1246
138 Ala Pro Glu Pro Leu Thr Val Thr Ala Pro Ser Leu Thr Ile Ala Glu
139 325 330 335
141 aat atg gct gac cta ata gat ggg tac tgc cgg ctg gtg aat gga acc 1294
142 Asn Met Ala Asp Leu Ile Asp Gly Tyr Cys Arg Leu Val Asn Gly Thr
143 340 345 350
145 tcg cag tca ttt atc atc aga cct cag aaa gaa ggt gaa cgg gct ttg 1342
146 Ser Gln Ser Phe Ile Ile Arg Pro Gln Lys Glu Gly Glu Arg Ala Leu
147 355 360 365 370
149 cca tca ata cca aag ttg gcc aac agc gaa aag caa ggc atg cgg aca 1390
150 Pro Ser Ile Pro Lys Leu Ala Asn Ser Glu Lys Gln Gly Met Arg Thr
151 375 380 385
153 cac gcc gtc tct gtg tca gaa aca gat gat tat gct gag att ata gat 1438
154 His Ala Val Ser Val Ser Glu Thr Asp Tyr Ala Glu Ile Ile Asp
155 390 395 400
157 gaa gaa gat act tac acc atg ccc tca acc agg gat tat gag att caa 1486
158 Glu Glu Asp Thr Tyr Thr Met Pro Ser Thr Arg Asp Tyr Glu Ile Gln
159 405 410 415
161 aga gaa aga ata gaa ctt gga cga tgt att gga gaa ggc caa ttt gga 1534
162 Arg Glu Arg Ile Glu Leu Gly Arg Cys Ile Gly Glu Gly Gln Phe Gly
163 420 425 430
165 gat gta cat caa ggc att tat atg agt cca gag aat cca gct ttg gcg 1582
166 Asp Val His Gln Gly Ile Tyr Met Ser Pro Glu Asn Pro Ala Leu Ala
167 435 440 445 450
169 gtt gca att aaa aca tgt aaa aac tgt act tcg gac agc gtg aga gag 1630
170 Val Ala Ile Lys Thr Cys Lys Asn Cys Thr Ser Asp Ser Val Arg Glu
171 455 460 465
173 aaa ttt ctt caa gaa gcc tta aca atg cgt cag ttt gac cat cct cat 1678
174 Lys Phe Leu Gln Glu Ala Leu Thr Met Arg Gln Phe Asp His Pro His
175 470 475 480
177 att gtg aag ctg att gga gtc atc aca gag aat cct gtc tgg ata atc 1726
178 Ile Val Lys Leu Ile Gly Val Ile Thr Glu Asn Pro Val Trp Ile Ile
179 485 490 495
181 atg gag ctg tgc aca ctt gga gag ctg agg tca ttt ttg caa gta agg 1774
182 Met Glu Leu Cys Thr Leu Gly Glu Leu Arg Ser Phe Leu Gln Val Arg
183 500 505 510
185 aaa tac agt ttg gat cta gca tct ttg atc ctg tat gcc tat cag ctt 1822
186 Lys Tyr Ser Leu Asp Leu Ala Ser Leu Ile Leu Tyr Ala Tyr Gln Leu
187 515 520 525 530
189 agt aca gct ctt gca tat cta gag agc aaa aga ttt gta cac agg gac 1870
190 Ser Thr Ala Leu Ala Tyr Leu Glu Ser Lys Arg Phe Val His Arg Asp
191 535 540 545
193 att gct gct cgg aat gtt ctg gtg tcc tca aat gat tgt gta aaa tta 1918
194 Ile Ala Ala Arg Asn Val Leu Val Ser Ser Asn Asp Cys Val Lys Leu
195 550 555 560
197 gga gac ttt gga tta tcc cga tat atg gaa gat agt act tac tac aaa 1966
198 Gly Asp Phe Gly Leu Ser Arg Tyr Met Glu Asp Ser Thr Tyr Tyr Lys
199 565 570 575
201 gct tcc aaa gga aaa ttg cct att aaa tgg atg gct cca gag tca atc 2014

```

RAW SEQUENCE LISTING

DATE: 04/16/2001

PATENT APPLICATION: US/09/757,100B

TIME: 08:54:10

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

202	Ala	Ser	Lys	Gly	Lys	Leu	Pro	Ile	Lys	Trp	Met	Ala	Pro	Glu	Ser	Ile	
203		580					585					590					
205	aat	ttt	cga	cgt	ttt	acc	tca	gct	agt	gac	gta	tgg	atg	ttt	ggt	gtg	2062
206	Asn	Phe	Arg	Arg	Phe	Thr	Ser	Ala	Ser	Asp	Val	Trp	Met	Phe	Gly	Val	
207	595					600					605					610	
209	tgt	atg	tgg	gag	ata	ctg	atg	cat	ggt	gtg	aag	cct	ttt	caa	gga	gtg	2110
210	Cys	Met	Trp	Glu	Ile	Leu	Met	His	Gly	Val	Lys	Pro	Phe	Gln	Gly	Val	
211					615					620					625		
213	aag	aac	aat	gat	gta	atc	ggt	cga	att	gaa	aat	ggg	gaa	aga	tta	cca	2158
214	Lys	Asn	Asn	Asp	Val	Ile	Gly	Arg	Ile	Glu	Asn	Gly	Glu	Arg	Leu	Pro	
215				630					635					640			
217	atg	cct	cca	aat	tgt	cct	cct	acc	ctc	tac	agc	ctt	atg	acg	aaa	tgc	2206
218	Met	Pro	Pro	Asn	Cys	Pro	Pro	Thr	Leu	Tyr	Ser	Leu	Met	Thr	Lys	Cys	
219			645				650					655					
221	tgg	gcc	tat	gac	ccc	agc	agg	cgg	ccc	agg	ttt	act	gaa	ctt	aaa	gct	2254
222	Trp	Ala	Tyr	Asp	Pro	Ser	Arg	Arg	Pro	Arg	Phe	Thr	Glu	Leu	Lys	Ala	
223		660					665					670					
225	cag	ctc	agc	aca	atc	ctg	gag	gaa	gag	aag	gct	cag	caa	gaa	gag	cgc	2302
226	Gln	Leu	Ser	Thr	Ile	Leu	Glu	Glu	Glu	Lys	Ala	Gln	Gln	Glu	Glu	Arg	
227	675				680					685						690	
229	atg	agg	atg	gag	tcc	aga	aga	cag	gcc	aca	gtg	tcc	tgg	gac	tcc	gga	2350
230	Met	Arg	Met	Glu	Ser	Arg	Arg	Gln	Ala	Thr	Val	Ser	Trp	Asp	Ser	Gly	
231					695					700					705		
233	ggg	tct	gat	gaa	gca	ccg	ccc	aag	ccc	agc	aga	ccg	ggt	tat	ccc	agt	2398
234	Gly	Ser	Asp	Glu	Ala	Pro	Pro	Lys	Pro	Ser	Arg	Pro	Gly	Tyr	Pro	Ser	
235			710						715					720			
237	ccg	agg	tcc	agc	gaa	gga	ttt	tat	ccc	agc	cca	cag	cac	atg	gta	caa	2446
238	Pro	Arg	Ser	Ser	Glu	Gly	Phe	Tyr	Pro	Ser	Pro	Gln	His	Met	Val	Gln	
239			725					730					735				
241	acc	aat	cat	tac	cag	gtt	tct	ggc	tac	cct	ggt	tca	cat	gga	atc	aca	2494
242	Thr	Asn	His	Tyr	Gln	Val	Ser	Gly	Tyr	Pro	Gly	Ser	His	Gly	Ile	Thr	
243		740					745					750					
245	gcc	atg	gct	ggc	agc	atc	tat	cca	ggt	cag	gca	tct	ctt	ttg	gac	caa	2542
246	Ala	Met	Ala	Gly	Ser	Ile	Tyr	Pro	Gly	Gln	Ala	Ser	Leu	Leu	Asp	Gln	
247	755				760					765						770	
249	aca	gat	tca	tgg	aat	cat	aga	cct	cag	gag	ata	gca	atg	tgg	cag	ccc	2590
250	Thr	Asp	Ser	Trp	Asn	His	Arg	Pro	Gln	Glu	Ile	Ala	Met	Trp	Gln	Pro	
251					775					780					785		
253	aat	gtg	gag	gac	tct	aca	gta	ttg	gac	ctg	cga	ggg	att	ggg	caa	gtg	2638
254	Asn	Val	Glu	Asp	Ser	Thr	Val	Leu	Asp	Leu	Arg	Gly	Ile	Gly	Gln	Val	
255				790					795					800			
257	ttg	cca	acc	cat	ctg	atg	gaa	gag	cgt	cta	atc	cga	cag	caa	cag	gaa	2686
258	Leu	Pro	Thr	His	Leu	Met	Glu	Glu	Arg	Leu	Ile	Arg	Gln	Gln	Gln	Glu	
259			805					810					815				
261	atg	gaa	gaa	gat	cag	cgc	tgg	ctg	gaa	aaa	gag	gaa	aga	ttt	ctg	aaa	2734
262	Met	Glu	Glu	Asp	Gln	Arg	Trp	Leu	Glu	Lys	Glu	Arg	Phe	Leu	Lys		
263		820					825						830				
265	cct	gat	gtg	aga	ctc	tct	cga	ggc	agt	att	gac	agg	gag	gat	gga	agt	2782
266	Pro	Asp	Val	Arg	Leu	Ser	Arg	Gly	Ser	Ile	Asp	Arg	Glu	Asp	Gly	Ser	

RAW SEQUENCE LISTING

DATE: 04/16/2001

PATENT APPLICATION: US/09/757,100B

TIME: 08:54:10

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

```

267 835          840          845          850
269 ctt cag ggt ccg att gga aac caa cat ata tat cag cct gtg ggt aaa 2830
270 Leu Gln Gly Pro Ile Gly Asn Gln His Ile Tyr Gln Pro Val Gly Lys
271          855          860          865
273 cca gat cct gca gct cca cca aag aaa ccg cct cgc cct gga gct ccc 2878
274 Pro Asp Pro Ala Ala Pro Pro Lys Lys Pro Pro Arg Pro Gly Ala Pro
275          870          875          880
277 ggt cat ctg gga agc ctt gcc agc ctc agc agc cct gct gac agc tac 2926
278 Gly His Leu Gly Ser Leu Ala Ser Leu Ser Ser Pro Ala Asp Ser Tyr
279          885          890          895
281 aac gag ggt gtc aag ctt cag ccc cag gaa atc agc ccc cct cct act 2974
282 Asn Glu Gly Val Lys Leu Gln Pro Gln Glu Ile Ser Pro Pro Pro Thr
283          900          905          910
285 gcc aac ctg gac cgg tcg aat gat aag gtg tac gag aat gtg acg ggc 3022
286 Ala Asn Leu Asp Arg Ser Asn Asp Lys Val Tyr Glu Asn Val Thr Gly
287 915          920          925          930
289 ctg gtg aaa gct gtc atc gag atg tcc agt aaa atc cag cca gcc cca 3070
290 Leu Val Lys Ala Val Ile Glu Met Ser Ser Lys Ile Gln Pro Ala Pro
291          935          940          945
293 cca gag gag tat gtc cct atg gtg aag gaa gtc ggc ttg gcc ctg agg 3118
294 Pro Glu Glu Tyr Val Pro Met Val Lys Glu Val Gly Leu Ala Leu Arg
295          950          955          960
297 aca tta ttg gcc act gtg gat gag acc att ccc ctc cta cca gcc agc 3166
298 Thr Leu Leu Ala Thr Val Asp Glu Thr Ile Pro Leu Leu Pro Ala Ser
299          965          970          975
301 acc cac cga gag att gag atg gca cag aag cta ttg aac tct gac ctg 3214
302 Thr His Arg Glu Ile Glu Met Ala Gln Lys Leu Leu Asn Ser Asp Leu
303          980          985          990
305 ggt gag ctc atc aac aag atg aaa ctg gcc cag cag tat gtc atg acc 3262
306 Gly Glu Leu Ile Asn Lys Met Lys Leu Ala Gln Gln Tyr Val Met Thr
307 995          1000          1005          1010
309 agc ctc cag caa gag tac aaa aag caa atg ctg act gct gct cac gcc 3310
310 Ser Leu Gln Gln Glu Tyr Lys Lys Gln Met Leu Thr Ala Ala His Ala
311          1015          1020          1025
313 ctg gct gtg gat gcc aaa aac tta ctc gat gtc att gac caa gca aga 3358
314 Leu Ala Val Asp Ala Lys Asn Leu Leu Asp Val Ile Asp Gln Ala Arg
315          1030          1035          1040
317 ctg aaa atg ctt ggg cag acg aga cca cac tga gcctccccta ggagcacgtc 3411
318 Leu Lys Met Leu Gly Gln Thr Arg Pro His
319          1045          1050
321 ttgctaccct cttttgaaga tgttctctag ccttccacca gcagcgagga attaaccctg 3471
323 tgtcctcagt cgcagcact tacagctcca acttlttttga atgaccatct gggtgaaaaa 3531
325 tctttctcat ataagtttaa ccacactttg atttgggttc attttttgtt ttgttttttt 3591
327 caatcatgat attcagaaaa atccaggatc caaatgttg cgtttttcta agaataaaaa 3651
329 ttatatgtaa gcttttaagc atcatgaaga acaatttatg ttacatttaa gatacgttct 3711
332 aaaggggat ggccaagggg tgacatetta attcctaaac taccttagct gcatagtgga 3771
334 agaggagagc tagaagcaaa
337 <210> SEQ ID NO: 2
338 <211> LENGTH: 1052

```

Please Note:

Use f n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/757,100B

DATE: 04/16/2001

TIME: 08:54:11

Input Set : A:\Pto.amc

Output Set: N:\CRF3\04162001\I757100B.raw

L:1046 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44